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Mazdoor Kisan Shakti Sangathan

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“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 4888-1 (2002): Textile Machinery and Accessories - Cones for Cross Winding, Part 1: Dimension, Tolerances and Desination of Cones with Half Angle 3° 30° [TXD 14: Machinery for Fabric Manufacture]

“ज्ञान से एक नये भारत का निर्माण”

Satyanaaranay Gangaram Pitroda

Invent a New India Using Knowledge



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”



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भारतीय मानक
वस्त्रादि मशीनरी और सहायकांग — क्रॉस
वाइंडिंग के लिए शंकु
भाग 1 अर्धकोण $3^\circ 30'$ वाले शंकुओं के आयाम, छूटें और अभिनाम
(तीसरा पुनरीक्षण)

Indian Standard

TEXTILE MACHINERY AND ACCESSORIES —
CONES FOR CROSS WINDING

PART 1 DIMENSIONS, TOLERANCES AND DESIGNATION OF
CONES WITH HALF ANGLE $3^\circ 30'$

(*Third Revision*)

ICS 59.120.20

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NATIONAL FOREWORD

This Indian Standard (Part 1) (Third Revision) which is identical with ISO 8489-2 : 1995 'Textile machinery and accessories — Cones for cross winding — Part 2 : Dimensions, tolerances and designation of cones with half angle 3° 30"' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Machinery for Fabric Manufacture Sectional Committee and approval of the Textile Division Council.

This standard has been revised to bring it in line with ISO 8489-2 : 1995.

In this revision, the text of ISO Standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to the following International Standard for which Indian Standard also exists. The corresponding Indian Standard which is to be substituted in its place is listed below along with its degree of equivalence for the edition indicated. However, that International Standard cross-referred in this adopted ISO Standard, which has subsequently been revised, position in respect of that latest ISO Standard has been given:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 286-1 : 1988 ISO System of limits and fits — Part 1 : Bases of tolerances, deviations and fits	IS 919 (Part 1) : 1993/ISO 286-1 : 1988 ISO System of limits and fits : Part 1 Bases of tolerances, deviations and fits	Identical

In this standard, another International Standard ISO 8489-1 : 1995 'Textile machinery and accessories — Cones for cross winding — Part 1 : Recommended main dimensions' has been referred to. The extracts from this International Standard which are relevant to this standard, are given in National Annex.

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values (revised)'.

Indian Standard

TEXTILE MACHINERY AND ACCESSORIES — CONES FOR CROSS WINDING

PART 1 DIMENSIONS, TOLERANCES AND DESIGNATION OF
CONES WITH HALF ANGLE 3° 30'

(*Third Revision*)

1 Scope

This part of ISO 8489 specifies the main dimensions, tolerances and designation of cones for cross winding with a half angle of cone 3° 30'. Furthermore, directives are given for the characteristics of cones and for the control of the diameters and lengths of the cone.

2 Normative references

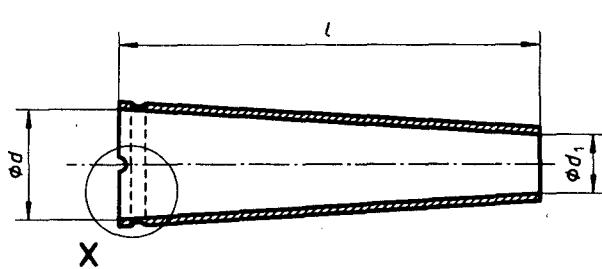
The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8489. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8489 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 286-1:1988, *ISO system of limits and fits — Part 1: Bases of tolerances, deviations and fits*.

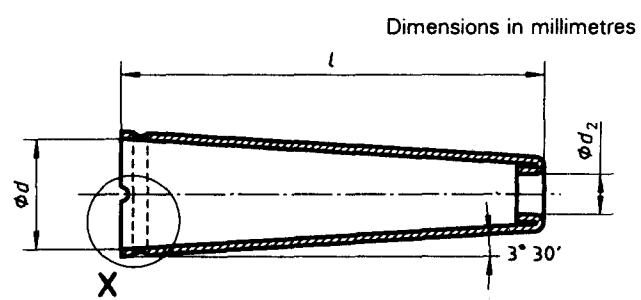
ISO 8489-1:1995, *Textile machinery and accessories — Cones for cross winding — Part 1: Recommended main dimensions*.

3 Dimensions and tolerances

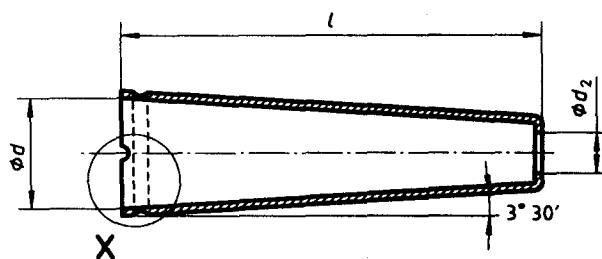
See figure 1 a), b) and c) and table 1.



a) Open-ended cone - Type A



b) Cone with rolled-in top - Type B



c) Cone with flat-end top - Type C

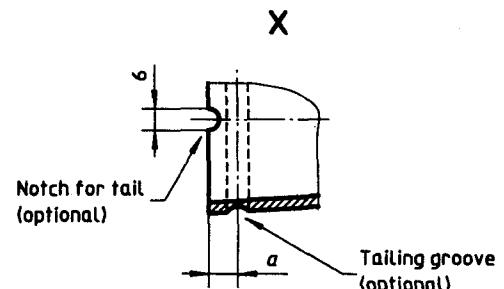


Figure 1 — Cones

Table 1 — Dimensions

Dimensions in millimetres

<i>d</i> nominal	<i>d</i> tolerance	<i>d</i> ₁ nominal	<i>d</i> ₁ tolerance	<i>d</i> ₂ ° nominal	<i>d</i> ₂ ° tolerance	<i>a</i> nominal	<i>l</i> nominal	<i>l</i> tolerance
33	± 0,2	19,6	± 0,2	—	—	8	110	± 1
46**)	± 0,2	24,7	± 0,2	17	± 0,5	8	175**)	± 1,5
62	± 0,2	40,7	± 0,2	30	± 0,5	8	175	± 1,5
		33,9	± 0,2	25	± 0,5	8	230	± 2
		26,6	± 0,2	17	± 0,5	10	290	± 2,5
71,5**)	± 0,2	43,4	± 0,2	33	± 0,5	8	230**)'	± 2
		36,1	± 0,2	25	± 0,5	10	290	± 2,5
80	± 0,25	44,6	± 0,25	—	—	10	290	± 2,5
		38,5	± 0,25	—	—	10	340	± 2,5

NOTES

- 1) The width of wound yarn shall not exceed *l* – 25 mm.
- 2) The deviations from the nominal value 3° 30' of the half angle of the cone are limited by the tolerances for *d*, *d*₁ and *l*, as indicated in the table. They do not influence the practical use of the cones during winding and further processes.

*) In certain cases, especially for automatic winding, dimensions of this size must be agreed upon between the interested parties in relation to the wall thickness.

**) Main dimensions as recommended in ISO 8489-1.

4 Characteristics

The following details shall be specified by the manufacturer:

- a) cone material (paper or plastic);
- b) surface treatment (paper: untreated, impregnated or lacquered);
- c) nature of yarn to be wound;
- d) thickness of cone wall (corresponding to the nature of the yarn to be wound);
- e) run-out tolerance (if required);
- f) details of tailing groove and notch for tail (if required);
- g) number, size and location of perforations (if required).

The minimum distance between the ends of the cone and edges of the nearest holes, if any, shall be 16 mm ± 0,5 mm.

5 Dimensions, tolerances and use of the gauges

See figure 2 a) and b) and table 2.

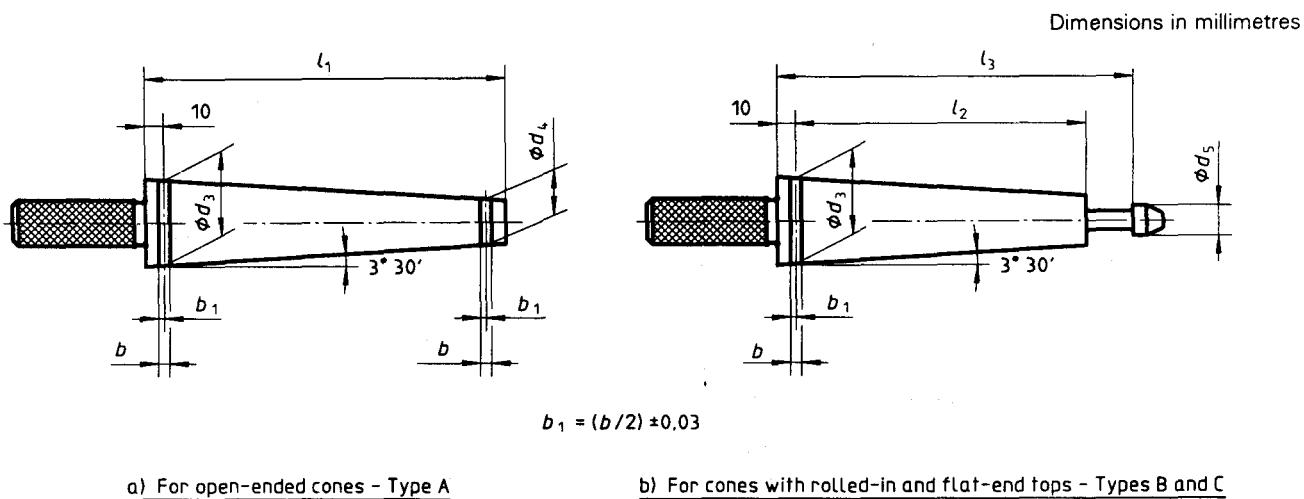


Figure 2 — Gauges

Table 2 — Dimensions

Dimensions in millimetres

d_3 *)	d_4 *)	l_1	d_5 **) h9	l_2 max.	l_3 min.	b $\pm 0,03$
33	19,6	130	—	—	—	3,2
46	24,7	195	16,3	163	181	3,2
62	40,7	195	29,3	163	181	3,2
	33,9	250	24,3	218	236	
	26,6	310	16,3	278	296	
71,5	43,4	250	32,3	218	236	3,2
	36,1	310	24,3	278	296	
80	44,6	310	—	—	—	4
	38,5	360	—	—	—	

*) The tolerance of the diameters of the gauge, measured at any distance from the ends, shall be js6 (see ISO 286-1:1988).

**) In certain cases, especially for automatic winding, dimensions of this size must be agreed upon between the interested parties in relation to the wall thickness.

The inner dimensions of the cone are in accordance with this part of ISO 8489 if the edge of the larger end of the cone, after it has been placed gently on the gauge and then pressed firmly home by hand, is between the tolerance marks.

To check the smaller diameter of an open-ended cone, it shall be placed firstly with the smaller end on the gauge. The edge of the smaller end of the cone must then lie between the tolerance marks on the corresponding end of the gauge.

6 Control of cone length

To check the tolerances of the length of the cone, a suitable gauge for checking lengths, for example a slide-gauge, must be used. The conical gauges shown cannot be used for this purpose.

7 Designation

The designation of a cone for cross winding with a half angle of $3^\circ 30'$ shall include the following information, in the order given:

- a) "Cone";
- b) reference to this part of ISO 8489, i.e. ISO 8489-2;
- c) its type (A, B or C);
- d) its large inner diameter, d , in millimetres;
- e) its length, l , in millimetres.

EXAMPLE

A cone with a half angle of $3^\circ 30'$, type B, with a large inner diameter d of 71,5 mm and length l of 230 mm shall be designated as follows:

Cone ISO 8489-2 - B 71,5 × 230

NATIONAL ANNEX

(*Foreword*)

EXTRACTS FROM ISO 8489-1 : 1995 'TEXTILE MACHINERY AND ACCESSORIES — CONES FOR CROSS WINDING — PART 1 : RECOMMENDED MAIN DIMENSIONS'

Main Dimensions of Recommended Cones for Future Developments

All dimensions are in millimetres.

Half Angle of Cone	Large Inner Diametre × Length <i>d</i> × <i>l</i>	Application Preferable for	Reference Document
3° 30'	46 × 175	viscose	ISO 8489-2
	71.5 × 230	coarse yarn	
4° 20'	59 × 170	staple fibre	ISO 8489-3
	59 × 170	dyeing yarns	ISO 8489-4
5° 57'	68 × 170	staple fibre	ISO 8489-5

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

This Indian Standard has been developed from Doc : No. TX 14(0478).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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